Lower Passaic River Study Area

PRP DISCHARGE CASES FOR THE LOWER PASSAIC RIVER STUDY AREA

INVESTIGATION OF THE FOUNDRY STREET COMPLEX PRPS NEWARK, NEW JERSEY

CRODA INC./HUMMEL LANOLIN CORPORATION

PREPARED FOR:
LOWER PASSAIC RIVER STUDY AREA
COOPERATING PARTIES GROUP

SUBMITTED TO:
USEPA REGION II

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LOWER PASSAIC RIVER STUDY AREA

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TABLE OF CONTENTS

PRP DATA EXTRACTION FORMS:

CRODA INC.

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LOWER PASSAIC RIVER STUDY AREA
PRP DATA EXTRACTION FORM

CRODA INCORPORATED / HUMMEL LANOLIN CORPORATION

CURRENT MAILING ADDRESS/CONTACT INFO:

Kevin Gallagher, President
Croda Incorporated
300-A Columbus Circle
Edison, NJ 08837
(FMS000001 at Tab 41)

FACILITY ADDRESS:

Hummel Lanolin Corporation
185 Foundry Street
Building # 39
Block 5005 – Lot 21
Newark, NJ
(FMG000119 at Tab 7, FMG000127 at Tab 7, FMG000173 at Tab 7)

FINANCIAL VIABILITY (annual revenue, # of employees):

It was reported that, as of 1957, Croda purchased the "lanolin business" of Hummel Chemical Company. Croda renamed that business as Hummel Lanolin Corporation. Reportedly, Croda moved the acquired Hummel Lanolin operations into a then-newly constructed plant in Newark, NJ. Croda reported that, as of 1987, "the separate divisions were merged and Croda became one entity". (FMS000021 at Tab 42, FMS000027 at Tab 43)

Of note, corporation records of the State of New Jersey indicate that the company was incorporated as Hummel Lanolin U.S.A., Incorporated, in the State of New Jersey as of June 15, 1961. The company underwent a name change at that time in 1961 from Hummel Lanolin U.S.A. to Hummel Lanolin Corporation. Hummel Lanolin is indicated in the online incorporation records as being a "foreign" corporation based with a "home jurisdiction" of New York. Hummel Lanolin is shown to have been merged into parent company Croda Incorporated as of September 1, 1989. The State of New Jersey corporation records show that Croda Incorporated was incorporated in New Jersey as of February 1972. It is shown as being a foreign corporation with a home jurisdiction of Delaware. (FMS000034 at Tab 45, FMS000036 at Tab 46, FMS000054 at Tab 47, FMS000059 at Tab 48, FMS000065 at Tab 49)

Croda is led by Kevin Gallagher, who reportedly serves as President of the Edison, NJ-based company. The ultimate, foreign parent of Croda is reported to be Croda International PLC ("Croda International"), based in the United Kingdom. Croda International reported that, as of 2004, it had a worldwide workforce of approximately 1600 employees, in 29 various Croda subsidiary companies, located in 25 countries worldwide. The US-based operations reported under Croda Incorporated, are said to have a present-day workforce of 210 employees. Limited financial information is available on Croda Incorporated; though parent Croda International reported sales of £305.6 Million British Pounds, ($533.9 Million U. S. Dollars), in its preliminary results for the fiscal period ending December 31, 2005. (FMS000001 at Tab 41, FMS000013 at Tab 41, FMS000016 at Tab 42, FMS000031 at Tab 43, FMS000032 at Tab 44)

DATES OF OPERATION (include info. on predecessors/successors if known):

According to NJDEP, Hummel Lanolin began operating as a tenant at the Foundry Street Complex as of the late-1950s. The company is indicated as having ceased its operations as of 1987. (FMG000119 at Tab 7, FMG000173 at Tab 7)

DESCRIPTION OF FACILITY OPERATIONS (list CERCLA hazardous substances used, manufactured or present):

The Foundry Street Complex ("Site"), is bordered to its north by Roanoke Avenue and to its northeast and east by Foundry Street and Allegheny Avenue. The complex is bordered to its west and southwest by various railroad rights-of-way. The New Jersey Turnpike is located to the south of the complex. The Foundry Street Complex consists of approximately 6 different City of Newark tax parcels, including the following:

- Block 5005 – Lot 4
- Block 5005 – Lot 5
- Block 5005 – Lot 6
- Block 5005 – Lot 10
- Block 5005 – Lot 21
- Block 5005 – Lot 22

(FMG000117 at Tab 7, FMG000174 at Tab 7)

Hummel Lanolin was reported to have operated within Building # 39 at the Foundry Street Complex, as of the late-1950s. As of the early-1960s, Block 5005 - Lot 4 was reportedly owned by Kem Realty Corporation, now Norpak Corporation. As of January 1964, Kem Realty subdivided the former Lot 4 into two parcels, designated as Lot 4 and a new smaller lot, designated as Block 5005 - Lot 21. The then-newly subdivided Lot 21, containing Building # 39, continued as the main facility of Hummel Lanolin at the Site. The Hummel Lanolin facility expanded in 1964 with the addition of a warehouse building. That warehouse was reportedly expanded in the 1969-1970 time period. (FMG000119 at Tab 7, FMG000127 at Tab 7, FMG000173 at Tab 7)

The following annotated aerial photograph identifies the approximate location of the Foundry Street Complex Site.

FOUNDRY STREET COMPLEX SITE

Aerial photograph dated March 29, 1995.
All annotated site outlines and locations are approximations.
Source: USGS / Terraserver-USA.com

According to a NJDEP 1991 investigative report on the Foundry Street Complex, Hummel Lanolin produced lanolin and lanolin derivatives at the Site. (FMG0000119 at Tab 7)

According to NJDEP, the Hummel Lanolin operations utilized the following raw and process materials to produce its finished products:

- Alcohols
- Caustic soda solution
- Citric acid
- Fatty acids
- Hydrogen peroxide
- Isopropanol
- Lanolin
- Lanolin derivatives
- Mineral oils
- Parrafin waxes
- Soda ash
- Sodium chloride
- Trisodium EDTA
- Wool grease

(FMG000119 at Tab 7)

Facility operations were reported to include the use of "drying" and "bleaching" tanks. (FMS000067 at Tab 51)

NJDEP reported that "soap stock" and wash waters generated from the Hummel Lanolin operations were neutralized with either sulfuric acid or hydrochloric acid to free water insoluble fatty acids. The recovered fatty acids would surface to the top of the mixture and the remaining acid solution would be pumped to a tank for neutralization with either caustic soda or soda ash before discharge to the Passaic Valley Sewerage Commissioners' system. Fatty acids recovered from the neutralization process were recycled back into production. (FMG000120 at Tab 7)

The Hummel Lanolin facility operations were reported to generate hazardous waste that included, but is not limited to:

- Chemical process liquids
- Chemical process solids
- Waste materials classified as "characteristic of ignitability"
- Toluene

(FMS000070 at Tab 54)

In 1979 and 1980 investigations by PVSC to assess the extent of heavy metals discharges into the PVSC collection system, Hummel Lanolin was identified as having the following levels of metal contaminants in its "industrial contribution after pretreatment" effluent to PVSC, described as consisting of process waste and non-contact cooling water:

- Arsenic
- Cadmium
- Chromium
- Copper

- Lead
- Mercury
- Nickel
- Zinc

(FMG000088 at Tab 3, FMS000075 at Tab 56)

In September 1986, the Hummel Lanolin facility at the Site became subject to ECRA regulation, (now ISRA regulation), due to a pending sale of the facility to CWC Industries, Inc. (FMG000120 at Tab 7) Sampling of facility soils and sewer system sediments was conducted in the course of the ECRA/ISRA remediation between 1986 and 1988. Sampling of sediment, soil and surface water at the entire Foundry Street Complex was also conducted by NJDEP in October 1988, including Block 5005 - Lot 21, the location of the former Hummel Lanolin operations. The 1987 and 1988 sampling activities have served to document the presence of certain contaminants in Site media – (Site soils, sediment, surface water and groundwater). The ECRA/ISRA sampling activities, as well as the Foundry Street Complex investigation sampling, have all served to document contamination present at the Hummel Lanolin facility, including certain contaminants believed to be associated with the Hummel Lanolin operations:

- Aldrin
- Base neutrals
- Beta-BHC
- Cadmium
- Copper
- DDT
- Delta-BHC
- Heptaclor
- Lead
- Metals
- Pesticides
- Petroleum hydrocarbons
- Total cyanide
- Volatile organic compounds
- Zinc

(FMG000120 at Tab 7, FMG000121 at Tab 7)

According to NJDEP, the following contaminants were identified in samples of site soils taken in the vicinity of an underground storage tank at the Hummel Lanolin facility:

- 1,2-Dichloropropane
- 2-Butanone
- Base neutral compounds
- Benzene
- Benzo(a)pyrene
- Bis(2-ethylhexyl) phthalates
- Cadmium
- Chromium
- Chrysene
- Copper
- Di-n-butyl phthalates
- Fluoranthene
- Lead
- Metals
- Naphthalene
- Petroleum hydrocarbons
- Phenanthrene
- Pyrene
- Semivolatile organic compounds
- Toluene
- Trichloroethane

- Volatile organic compounds
- Xylene
- Zinc

(FMG000120 at Tab 7, FMG000133 at Tab 7)

High concentrations of wool grease, a known Hummel Lanolin raw material, were found in one sample taken from beneath the tank. (FMG000133 at Tab 7)

PERMITS (provide dates):

NPDES:

Information is not available at this time.

POTW (pretreatment):

Information is not available at this time.

NEXUS TO LOWER PASSAIC RIVER STUDY AREA (describe in detail; cite to supporting documentation; date or time period of disposal; list CERCLA hazardous substances; and volume, if known):

Direct (e.g. pipe, outfall, spill):

See discussion below concerning discharges from the Foundry Street Complex to the Roanoke Avenue combined sewer system; as well as the dry- and wet-weather bypassing of wastewater from the Roanoke Avenue CSO and the ultimate discharge of same to the Passaic River.

Sanitary Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

Information obtained to date indicates that the Roanoke Avenue combined sewer system and outfall to the Passaic River was documented by PVSC to have been inoperative from 1971 through late 1979. While not conclusive, PVSC records indicate that discharges from the Roanoke Avenue CSO to the Passaic River are known to have occurred in the late-1940s/early-1950s time period. As noted in the evidence obtained to date, discharges of hazardous substances into the sewer system of the Foundry Street Complex would have ultimately discharged directly to the Passaic River via the Roanoke Avenue CSO during periods when it was known to be in a chronic malfunctioning condition. (FMG000189 at Tab 9, FMG000218 at Tab 12, FMG000232 at Tab 13, FMG000245 at Tab 14, FMG000256 at Tab 15, FMG000275 at Tab 16, FMG000292 at Tab 17, FMG000302 at Tab 18, FMG000317 at Tab 19, FMG000325 at Tab 20, FMG000334 at Tab 21)

Information obtained to date indicates that wastewater discharged from the Foundry Street Complex Site is carried via combined sewers which ultimately discharge to the Passaic River. Information on the area sewer lines can be found in a report prepared by Purcell Associates ("Purcell") on behalf of the City of Newark, entitled Pollution Abatement Plan, Newark, New Jersey, ("1975 Purcell Abatement Plan"), dated 1975. It is noted in the 1975 Purcell Abatement Plant that a 30-inch sewer is routed from west-to-east along Roanoke Avenue and the northern border of the Site. After the intersection of Roanoke Avenue and Foundry Street, at the northeast corner of the Site, this sewer line increases in size to 48 inches in diameter. The sewer line continues to travel from west-to-east, increasing to 54 inches, before it is shown as ultimately discharging to the Passaic River via a 60-inch diameter outfall. (FMG000049 at Tab 2)

Information obtained from NJDEP indicates that the former Hummel Lanolin operations in Building # 39 at the Site were located directly adjacent to Roanoke Avenue. Roanoke Avenue was located directly along the north side of the former Hummel Lanolin facility. (FMG000115 at Tab 7, FMG000175 at Tab 7)

PVSC reported that, as of February 6, 1970, a Judgment was entered in a Superior Court of New Jersey litigation action brought by PVSC against the City of Newark for pollution emanating into the Passaic River from certain Newark-owned sewers. Reportedly, Newark was ordered to abate and remove all pollution from certain sewers discharging to the river. As of August 1971, PVSC advised Newark of the continuing pollution emanating from these sewers, noting that "... *it was the Commissioner' opinion that a considerable portion of the pollution in the lower Passaic River can be attributed to the discharges from these Newark Storm Sewers.*" (FMG000219 at Tab 12)

Newark's efforts to abate pollution from the target sewers included, but were not limited to, work performed in November and December of 1971 to clean the Roanoke Avenue sewer line. In December 1971, an explosion occurred in the Roanoke sewer during preparations for a "TV inspection" of the sewer line. That work re-commenced in January 1972. (FMG000228-229 at Tab 12)

In a Supplemental Relief Action in the Superior Court of New Jersey that was brought and heard in February 1972, by PVSC against Newark, the Court ordered Newark to terminate all illegal connections and to halt all pollution by September 1973. At that time in February 1972, Newark proceeded with efforts to inspect, seal and/or repair certain target sewers. (FMG000220-221 at Tab 12)

Between June and August of 1972, reports were issued by Newark calling for the re-laying of approximately 1,200 feet of the Roanoke Avenue sewer line from Doremus Avenue (near the Passaic River) and west to Avenue P (near Foundry Street). (FMG000228-229 at Tab 12)

As of February 1974, Newark requested help from PVSC to address the halting of pollution from the Newark sewers. By 1975, Newark advised that certain work efforts to abate the sewer pollution had to be "put off" due to limited funds. (FMG000220-221 at Tab 12)

Of note, as of January 1975, the City of Newark was reported by PVSC to have received a National Pollution Discharge Elimination System ("NPDES") Permit from USEPA for certain outfalls to the Passaic River, including the "Roanoke Avenue storm sewer." The terms of Newark's January 1975 NPDES permit were reported by PVSC to include, but not be limited to: (1) a wet weather study and implementation of an approvable monitoring program; (2) an abatement study of certain overflows; and (3) an engineering report and schedule for the elimination of all discharges by Newark of untreated wastewater. (FMG000222 at Tab 12)

Subsequent to the issuance of the above 1972 reports that called for the re-laying of the sewer line, PVSC stated that no further abatement efforts centered on the Roanoke Avenue sewer, from 1972 through and including in 1976. (FMG000228-229 at Tab 12)

In September 1978, and subsequently revised in January 1979, Clinton Bogert Associates ("Clinton Bogert"), on behalf of the City of Newark, issued its study of sources of pollution discharging to the Passaic River from certain storm sewer and combined sewer outfalls ("CSO"s) in Newark. The Clinton Bogert report is entitled City of Newark, New Jersey, Feasibility Study, Pollution Abatement Program ("1979 FS/Pollution Abatement Report"), and included an investigation of the Roanoke Avenue combined sewer system and CSO. (FMG000001-FMG000003 at Tab 1)

In the 1979 FS/Pollution Abatement Report, it was noted that "polluted liquid wastes are being discharged into the lower Passaic River from four sewers owned by the City of Newark. These wastes include continuous discharges from the wet weather outfall of the Roanoke Avenue combined sewer..." The report went on to state that "a non-functioning regulator causes the dry weather discharge at Roanoke Avenue." (FMG000007 at Tab 1)

It was noted in the 1979 FS/Pollution Abatement Report that, due to construction of the New Jersey Turnpike, a combined sewer regulator mechanism, the Avenue P regulator, was constructed on the Roanoke Avenue combined sewer in 1951. The Avenue P regulator was located closer to the intersection of Avenue P and Roanoke Avenue, at a distance of approximately 1425 feet west of the intersection of Roanoke Avenue and Doremus Avenue. (FMG000010 at Tab 1, FMG000013 at Tab 1)

Reportedly, a former regulator mechanism, the old Roanoke Avenue regulator was located to the east of the Avenue P regulator, near the intersection of Roanoke Avenue and Doremus Avenue. With construction of the Avenue P regulator in 1951, the old Roanoke Avenue regulator was "sealed off and abandoned" at that time. (FMG000010 at Tab 1, FMG000013 at Tab 1)

The Avenue P regulator was designed to divert all dry weather flow into a then-new 24-inch sanitary sewer. It was reported by Clinton Bogert that the new 24-inch sewer was routed from the Avenue P regulator, ran west-to-east and parallel to the older Roanoke Avenue combined sewer, and was ultimately connected to an 18-inch interceptor sewer located at Doremus Avenue. (FMG000010 at Tab 1)

An 18-inch sanitary sewer in the northern section of Doremus Avenue was reportedly connected to the then-new 24-inch sanitary sewer coming from Roanoke Avenue. This 18-inch Doremus Avenue sanitary sewer was reported to then pass under the former 54-inch Roanoke Avenue sewer, thereby bypassing the former Roanoke regulator mechanism. (FMG000010 at Tab 1)

Sewage in the Doremus Avenue "interceptor" sewer is reported to then flow to a Wilson Avenue interceptor sewer into a PVSC interceptor sewer that flows directly to the PVSC wastewater treatment plant. With construction of the Avenue P regulator and the new 24-inch sanitary sewer in 1951, the former 54-inch Roanoke Avenue combined sewer located "downstream" of the Avenue P regulator was converted into a wet weather outfall to the Passaic River. (FMG000010 at Tab 1) The former 54-inch Roanoke Avenue combined combined/wet weather sewer ultimately discharges via a 60-inch outfall to the Passaic River. (FMG000031 at Tab 1)

Of significance, Clinton Bogert went on to state in its 1979 FS/Pollution Abatement Report that:

> *"The Avenue "P" regulator is not functioning. Over two feet of dry, granular sediment blocks the regulator gate chamber and prevents flow between the diversion chamber and the Roanoke Avenue dry weather sewer. As a result, all flow in the Roanoke Avenue combined sewer enters the Passaic River through the Roanoke Avenue outfall."*

(FMG000011 at Tab 1)

Clinton Bogert went on to note in its 1979 FS/Pollution Abatement Report that:

> *The regulator mechanism is corroded and not functional. A wooden weir, provided in the diversion chamber, is intact. This weir does not cause the upstream pipe to surcharge above the crown in dry weather. It does reduce upstream flow velocity and causes sedimentation. About 0.5 feet of primarily granular sediment was found in the combined sewer above the regulator. This material accumulates in dry weather and the lighter fractions, probably including most organic pollutants, may be flushed toward the Passaic River during relatively small rainfall events.*

(FMG000011 at Tab 1)

PVSC weekly inspection reports from 1978 and 1979 document that the Roanoke Avenue CSO line continued to bypass and discharge to the Passaic River. Relative to tenants at the Foundry Street Site, specifically Sun Chemical and Arkansas Chemical, PVSC reported on October 27, 1978, that "*City of Newark diversion chamber malfunctioning allowing polluting materials to enter storm drain thence Passaic River.*" PVSC reported on November 30, 1978, that "*city in conjunction with PVSC Industrial Dept. making investigations of chemical plants in Foundry St. area, in effort to determine the source of pollution to storm sewer*" and again on December 11, 1978, that "*Chamber which is malfunctioning at Roanoke Ave. still not repaired*".

In discussing pollution emanating from several City of Newark storm and CSO sewers, PVSC reported on March 2, 1979, that "*No new efforts made to abate these long standing pollution violations – No action taken to repair malfunctioning chamber at Roanoke Ave.*" Relative to these same storm and CSO sewers, including the Roanoke sewer line, PVSC reported on July 16, 1979, that "*Special – nothing being done at this time to abate these pollutions,*" on October 19th that "*Samples taken continue to show signs of pollution*" and repeatedly on both November 30th and December 14, 1979, that "*Samples taken found to be polluting.*" As of December 28, 1979, PVSC reported "*Pollution still continues at these areas – nothing being done by city to abate problem.*" (FMG000218 at Tab 12, FMG000232 at Tab 13, FMG000245 at Tab 14, FMG000256 at Tab 15, FMG000275 at Tab 16, FMG000292 at Tab 17, FMG000302 at Tab 18, FMG000317 at Tab 19, FMG000325 at Tab 20, FMG000334 at Tab 21)

As part of 1986-1987 ECRA (now ISRA) remedial activities by Hummel Lanolin, sampling was performed on the facility sewer system. Subsequent 1987 sampling activities centered on Site soils, as well as the sediment in the facility sewer line. The following contaminants were reportedly identified in the sampled sewer line sediments:

- Metals
- Petroleum hydrocarbons
- Volatile organic compounds

(FMG000120 at Tab 7)

It should be noted that the ECRA/ISRA investigation served to document the presence of floor drains located in the Hummel Lanolin process building. (FMG000120 at Tab 7)

During the course of the ECRA/ISRA investigation, Hummel Lanolin also investigated the facility's drainage basin. The drainage basin was reportedly utilized to collect effluent prior to its discharge into the "industrial sewer system." Reportedly, in the process of an October 1988 "clean out" of the drainage basin, a sample was taken of the sludge and liquid in the drainage basin and its associated piping. The sampling served to identify the following contaminants:

- Base neutrals
- Cadmium
- Copper
- Lead
- Metals
- Petroleum hydrocarbons

- Total cyanide
- Volatile organic compounds
- Zinc

(FMG000121 at Tab 7)

In 1979 and 1980 investigations by PVSC to assess the extent of heavy metals discharges into the PVSC collection system, Hummel Lanolin was identified as having the following levels of metal contaminants in its "industrial contribution after pretreatment" effluent to PVSC, described as consisting of process waste and non-contact cooling water:

- Arsenic
- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Nickel
- Zinc

(FMG000088 at Tab 3, FMS000075 at Tab 56)

It should be noted that historical core samples taken of sediments in the Passaic River located in the vicinity of the Roanoke Avenue CSO have served to identify contaminants in those sediments that match raw, process and waste materials known to be associated with the Hummel Lanolin operations. Contaminants that were identified in sampling of site soils, groundwater and sediments at the Hummel Lanolin facility were also identified in Passaic River sediments sampled in the vicinity of the Roanoke Avenue outfall, including but not limited to the following:

- 1,2-Dichloropropane
- 2-Butanone
- Benzene
- Benzo(a)pyrene
- Bis(2-ethylhexyl) phthalates
- Cadmium
- Chromium
- Copper
- Lead
- Di-n-butyl phthalates
- Naphthalene
- Phenanthrene
- Pyrene
- Toluene
- Xylene
- Zinc

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

See above discussion concerning the combined sewer system in the area of the Foundry Street Complex, which ultimately discharges to the Passaic River. As discussed above, a system of strip drains within the Site are tied into this combined sewer system, allowing storm water and/or surface runoff to serve to transport contaminants to the drains and ultimately to the Passaic River.

Runoff:

See above discussion concerning the combined sewer system in the area of the Foundry Street Complex, which is known to ultimately discharge to the Passaic River. As discussed above, a system of strip drains within the Site are known to be tied into this combined sewer system, allowing storm water and/or surface run-off to serve to transport contaminants to the drains and ultimately to the Passaic River.

During the 1986 ECRA/ISRA site investigation, it was observed that a former underground storage tank was of concern at the Site. Reportedly, soil borings made during the Hummel Lanolin ECRA/ISRA investigation served to identify petroleum hydrocarbon and base neutrals contamination in the soils in the vicinity of the tank at the facility. According to NJDEP, the following contaminants were identified in samples of site soils taken in the vicinity of the underground storage tank at the Hummel Lanolin facility:

- 1,2-Dichloropropane
- 2-Butanone
- Base neutral compounds
- Benzene
- Benzo(a)pyrene
- Bis(2-ethylhexyl) phthalates
- Cadmium
- Chromium
- Chrysene
- Copper
- Di-n-butyl phthalates
- Fluoranthene
- Lead
- Metals
- Naphthalene
- Petroleum hydrocarbons
- Phenanthrene
- Pyrene
- Semivolatile organic compounds
- Toluene
- Trichloroethane
- Volatile organic compounds
- Xylene
- Zinc

(FMG000120 at Tab 7, FMG000133 at Tab 7)

As noted above, further analysis of those soil samples identified high concentrations of wool grease, a known Hummel Lanolin raw material, in one sample taken from beneath the tank. (FMG000133 at Tab 7)

In the course of the installation of groundwater monitoring wells during the ECRA/ISRA investigation at Hummel Lanolin, a "black sludge like material" was observed in the location of the first well. August 1987 soil samples taken in the area of the black sludge material served to identify the following contaminants.

- Base neutrals
- Beta-BHC
- Delta-BHC
- Metals
- Pesticides
- Volatile organic compounds

(FMG000120 at Tab 7)

Subsequent 1987 Hummel Lanolin sampling activities centered on Site soils, as well as the sediment in the facility sewer line. The following contaminants were reportedly identified in the sampled soils:

- Aldrin
- Base neutrals
- DDT
- Heptaclor
- Metals
- Pesticides
- Petroleum hydrocarbons
- Volatile organic compounds

(FMG000120 at Tab 7)

As noted above, the ECRA/ISRA investigation documented the presence of floor drains located in the Hummel Lanolin process building. Sampling of soils in 1989, taken beneath a floor drain in the process building, served to document the presence of the following contaminants in the soil:

- Base neutrals
- Metals
- Volatile organic compounds

(FMG000120 at Tab 7)

As discussed above, historical core samples taken of sediments in the Passaic River in the vicinity of the Roanoke Avenue CSO have served to identify contaminants in those sediments that match raw, process and waste materials known to be associated with the Hummel Lanolin operations.

Groundwater:

Hummel Lanolin was noted to have also investigated groundwater at the Site. During the ECRA/ISRA investigation, it was noted that groundwater was investigated in the vicinity of a former underground storage tank. Groundwater flow is in an east-southeast direction in the vicinity of the tank. Information on soil samples taken adjacent to the tank indicated the presence of the following contaminants:

- Base neutrals
- Benzo(a)pyrene
- Chrysene
- Fluoranthene
- Naphthalene
- Phenanthrene
- Pyrene

(FMG000164 at Tab 7)

POTENTIAL NEXUS TO LOWER PASSAIC RIVER STUDY AREA (describe in detail; cite to supporting documentation; list CERCLA hazardous substances; and volume, if known):

Direct (e.g. pipe, outfall, spill):

Information is not available at this time.

Sanitary Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

See above information on documented discharges to facility storm sewer/strip drains, and the routing of same to combined sewers known to have outfalls to the Passaic River.

Storm Sewer (provide name and location of CSO; details regarding CSO overflows and dates):

See above information on documented discharges to facility storm sewer/strip drains, and the routing of same to combined sewers known to have outfalls to the Passaic River.

Runoff:

See above information on documented discharges to facility storm sewer/strip drains, and the routing of same to combined sewers known to have outfalls to the Passaic River.

Groundwater:

Information is not available at this time